Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

MINOR NOTICES.

IN DRYER'S new "Lessons in physical geography"[2] we are pleased to notice a fuller account than is usual in such books under the topic "Plant geography." It is refreshing to see some of the more cogent ecological facts presented in place of the time-worn statements current in the older physical geographies.—H. C. COWLES.

THE FIFTH AND SIXTH parts of Engler's *Pflanzenreich*[3] have appeared, continuing the finely organized and illustrated presentation of the previous parts. Rafflesiaceae (fam. 75) comprise 7 genera and 27 species, and Hydnoraceae (fam. 76) 2 genera and 10 species. Symplocaceae (fam. 242) are represented by the single great genus Symplocos, containing 282 species, 114 of which are described as new.—J. M. C.

THE FIRST FASCICLE of the fifth volume of Thomé's *Flora von Deutschland*,[4] dealing with cryptogams, has appeared, with Dr. Walter Migula as author. The pteridophytes appeared in the first volume, so that the present one begins with the Bryophytes. A general discussion (21 pp.) of the essential features of the group, illustrated by the excellent plates, precedes the systematic presentation. The fascicle includes the Sphagnaceae, comprising 22 species of Sphagnum, and also the beginning of the Andreaeaceae.—J. M. C.

DR. EUG. WARMING[5] has published his sixth contribution dealing with Podostemaceae, presenting the genera Polypleurum, Cladopus, Griffithella, Sphaerothylax, Tristicha, and Marathrum. The very full and illustrated account of the anatomy, morphology, and distribution of these interesting forms follows the method of the preceding papers, which appeared in the same publication in 1881, 1882, 1888, 1891, and 1899. In another contribution the author promises to present a systematic revision of the family, based upon these studies.—J. M. C.

DR. K. GIESENHAGEN[6] has published a very complete monograph of *Niphobolus*, a genus of epiphytic ferns of the oriental tropics and subtropics.

[2] DRYER, CHARLES R.: Lessons in physical geography. 12mo. pp. 430, with 347 figures. New York, Cincinnati, Chicago: American Book Company. 1901.

[3] ENGLER. A.: Das Pflanzenreich. Regni vegetabilis conspectus. Part 5. Rafflesiaceae und Hydnoraceae von H. Graf zu Solms-Laubach. *M* 1.40. Part 6. Symplocaceae von A. Brand. *M* 5. Leipzig: Wilhelm Engelmann. 1901.

[4] Flora von Deutschland. V. Kryptogamen-Flora. Lfg. 1. pp. 1–32, with 7 plates, 5 of them colored. Gera: Friedrich von Zezschwitz. 1901. *M* 1.

[5] Familien Podostemaceae. VI. Memoires de l'Academie royale des Sciences du Danemark. Danske Vidensk. Selsk. Skrift. 11:1–67. 1901 (part 1).

[6] Die Farngattung Niphobolus. 8vo. xii+223, with 20 text figures. Jena: Gustav Fischer. 1901. *M* 5.50.

In the first chapter (pp. 1–11) he discusses the general principles of the classification of ferns; in the second (pp. 12–30) a history of the genus is given; and in the third (pp. 21–85) very full details of its morphology are presented, under the headings prothallium, rootstock, root, leaf forms, trichomes, venation, hydathodes, sori, and leaf anatomy. The fourth chapter (pp. 86–223) contains detailed descriptions, both diagnostic and supplementary, of the 49 species, 10 of which are described as new.—J. M. C.

DR. JAKOB HUBER, botanical director of the Museum of Natural History of Para, has issued the first two decades of his *Arboretum Amazonicum*.[7] Each species considered is represented by at least a page of text in Spanish and French in parallel columns, and a plate. The plates are exceptionally fine, being heliotypes from remarkably good photographs. Many of the plants are represented in their natural setting, and the views of tropical plant formations are the finest we have seen. This series of illustrations will be highly prized for its artistic and scientific excellence. In addition to illustrations of prominent genera, several plates represent characteristic plant societies, as a savanna and two illustrations of river bank vegetation. The work will appear in ten parts, at 10 francs a part. The author is to be congratulated upon this valuable contribution to botanical literature.—J. M. C.

ANOTHER FASCICLE of *Plantae Bakerianae*[8] has just appeared. It contains "a somewhat miscellaneous congeries of paragraphs dealing with new or otherwise interesting species" of Mr. Baker's collecting in the Gunnison watershed in the summer of 1901. It is a first installment of volume III of the series, and is published before the completion of volumes I and II. It contains presentations of Ranunculaceae (n. spp. of Cyrtorhynca, Delphinium, and Aconitum), Cruciferae (n. spp. of Draba, Arabis, and Thelypodium), Violaceae (6 n. spp. of Viola), Polygonaceae (n. spp. of Polygonum, Rumex, and Eriogonum), Apocynaceae (2 n. spp. of Apocynum), Asperifoliae (n. spp. of Mertensia and Oreocarya), Labiatae (n. sp. of Monardella), Scrophulariaceae (n. spp. of Castilleia and Pentstemon), Compositae (n. spp. of Senecio, Arnica, Helianthus, Tetraneuris, Psilostrophe, Hymenopappus, Artemisia, and Erigeron), Plantaginaceae (n. sp. of Plantago), Nyctaginaceae (n. spp. of Abronia and Allionia), and Papilionaceae (n. spp. of Thermopsis and Lupinus).—J. M. C.

B. T. P. BARKER[9] has described a conjugating process that precedes spore-formation in an undescribed yeast organism obtained from commercial ginger. He describes the characters obtained from plate-cultures and streakcultures, but chief interest centers in the spore-formation. Under special nutritive conditions ("starvation") two neighboring cells put out beaks towards one another, which meet and fuse by their tips. The "compound cell" thus formed appears as two ordinary cells attached to one another by an elongated neck. "A few hours after fusion, in each compartment of the compound cell" the spores begin to round off. The author also obtained appearances that he interprets as fusion of the "nuclear apparatus" in the connecting tube. He discusses the various possible interpretations, but concludes that this phenomenon is a sexual process of the simplest kind. He also proposes a new genus to include this form, and suggests the name *Zygosaccharomyces.* What constitutes sexual fusion, as distinct from other fusions, is a question that is becoming increasingly difficult to answer.—J. M. C.

---

[7] Arboretum Amazonicum. Iconographie des plantes spontanées et cultivées les plus importantes de la région Amazonienne. Decades 1 and 2. 4to. Para. 1900.

[8] GREENE, EDWARD L.: Plantae Bakerianae. **3**: viii+36. 18 N 1901. [Fasc. I.]

[9] A conjugating "yeast." Phil. Trans. Roy. Soc. B. **194**: 467–485. *pl. 46.* 1901.

NOTES FOR STUDENTS.

CZAPEK shows[10] that the well known transformation of starch to sugar, which accompanies a lowering of temperature, especially in autumn, can be prevented if the sugar concentration is sufficient. Starch was also formed in guard cells of certain plants immersed in a 10 per cent. cane sugar solution at a temperature of 0°.—H. C. COWLES.

TUCKER and TOLLENS,[11] also Fruhwirth and Zielstorff,[12] have taken up the question of the autumnal migration of carbohydrates, proteids, phosphoric acid, and potash from the dying leaves to the perennial stems of plants. The works of Wehmer and Behrens have given rise to a disbelief in such migrations, Behrens attributing losses of these substances to decomposition and leaching out by rain water. The present authors, however, guarding against such processes, conclude that there are fall migrations of useful substances, though the amount of translocated material is very much less than was once believed.—H. C. COWLES.

D. A. ANDREWS has been investigating karyokinesis in the pollen mother cells of Magnolia and Liriodendron.[13] His conclusions in reference to the first mitosis are that the chromosomes arise from the resting nucleus as irregular masses, without a previous formation of the usual uniform spiral, that the resulting chromosomes are mostly U-shaped, and that they divide longitudinally. The identity of the chromosomes, therefore, is not maintained from the first to the second mitosis, the chromosomes in the latter case arising by the segmentation of an irregular spirem and being at first lumpy bodies that assume the form of a shallow U.—J. M. C.

---

[10] Ber. d. deutsch. bot. Gesell. **19**: 120–127. 1901.

[11] Jour. für Landw. **48**: 39–64. 1900.

[12] Landw. Versuch. Stat. **55**: 9. 1901.

[13] Karyokinesis in Magnolia and Liriodendron, with special reference to the behavior of the chromosomes. Bot. Centralb. Beih. **11**: 134–142. *pl. 1.* 1901.